

SUBREGIONAL CONDITIONS OF DEVELOPMENT OF ECONOMIC ACTIVITY IN RURAL AREAS (ON THE EXAMPLE OF PODKARPACIE PROVINCE)

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ABSTRACT

In article were executed opinion of conditions of economic activity (naturals, demographics and infrastructures) in rural communes of subregions of Podkarpackie province as well as was presented differentiation in this range between them, and also inside them (between rural communes), showing trumps and weakness of studied area.

KEYWORDS

economic activity, rural areas, comparative analysis, demographical conditions, infrastructure conditions

Introduction

Actual socio-economical situation on the rural areas in Poland is characterizing by the proportionally high density of population in villages, high level of crumbling farms, high employment in agriculture in recounting on area unit and the low capital resources. In results of above situation there are there small scale and diversification of agricultural production, low level of market direction, low work efficiency and productivity of stable means in agriculture and the smallest agricultural income creating by one person. This situation makes worse the low dynamics of food demand, so the weak level development of vertical and horizontal integration in agrobusiness braking access of farms to integrational pension, what limits their modernization. In connection with this it seeming that some chance on the improvement of existing situation and appeasement above problems is the displacement of significant man power resources from agriculture to an extra-agricultural activities and development of new functions of rural areas (forrestal management, tourism and recreation, small and mean enterprise). So in this day, still is important the economical activation and development, besides agriculture, every possible extra-agricultural economical activity for rural areas in Poland [Zajac 2004].

In Poland there are spatial differentiation of rural areas with respect the cultural and socio-economical aspects. This are existing also in regional scale and subregions and adjoining local systems. Considerably that are caused by historical conditions and overlapping factors as: natural, demographic and economic conditions [Rosner 1999]. Increase and economical development of concrete area (region, subregion, microregion or commune) including also development of economical activity (agricultural and extra-agricultural) are causing by external and internal conditions. External conditions are resulting from global and national conditions, so we may indicate on the: technic progression, total level of socio-economical development of country, law-constitutional solutions, national politics, and institutional infrastructure. But internal conditions are inhering in local conditions, in the main in: acting of local government and inhabitants. They are creating by natural conditions as: natural environment, demographic conditions: man power resources, and economical conditions, or technic infrastructure [Siekierski 2003]. So we may distinct that seems importance is the investigation and recognition this conditions (especially internal) and making an estimation, which are strong or chances, which are weaknesses or strenghts for economical development of investigational area and indication or this base the efficient ways of solving the main problems.

Aim, scope, source material and methodics

Making estimation of conditions of economical activity and investigation of exiting differentiation between subregions in the Podkarpackie province, and between particular rural communes and settlement which elements or conditions are trumps or weaknesses of investigational areas – is the aim of this work.

The investigations they were made on the level of commune, by making estimation of chosen

elements of conditions of economical activity (from the point of view obtained data) and they were included all rural communes in the Podkarpackie province (114 communes). Next, from the point of view of realization of accepted aim of investigation, all rural communes were assembled according to division used in document "Strategia rozwoju województwa podkarpackiego na lata 2000 – 2006" [Strategia... 2000] on the five subregions: western (29 communes), middle-western (21 communes), middle (24 communes), eastern (23 communes) and southern (17 communes).

Base of this work is the empirical material came out from Statistical Department in Rzeszow, regarded to chosen features characterizing the demographic and infrastructural conditions (data from 2004 year). Next, for estimation of natural conditions they were used from valorization of agricultural productional space IUNG in Puławy [Waloryzacja 1994].

In the work they were used the method of comparative analyse (they were made comparisons in spatial i.e. between particular subregions and between subregions and the Podkarpackie province). So for settlement the differentiation from the point of view of particular rural communes in scope regions of Podkarpackie province, they were used the coefficient of diversity.

Also they were conducted the pointing estimation of conditions for economical agriculture (i.e. natural, demographical and infrastructural) in all subregions on the background of the Podkarpackie province. Particular features characterizing the natural conditions (i.e. total index of quality of agricultural productional space), demographical (i.e. changes in number of population during 1999-2004, dynamics year 1999 =100, percentage of population in productional age, percentage of population with high education and above mean, density of population, index of population increase, so increase of population per 1000 inhabitants, index of balance of migration, so balance of migration for stable stay per 1000 inhabitants) and infrastructural (i.e. density of commune roads with improvement hard surface, index of telephone services, so number of stationary telephone abonents per 1000 inhabitants and indexes of equipment of house buildings in water supply and sewage systems so number of connects water supply and sewage system to house buildings per 1000 house buildings) they were compared with average for the Podkarpackie province in this scope, which accepted as 100 points and properly estimated their majority or short weight in subregion. Next, they were summed all points and computed the means value (graph 1).

Natural conditions

The natural resources in Poland are characterizing by the high regional differentiation. The quality of natural environment and their usefulness for agricultural production is exactly recognized and quantified form communes by indexes of valorization of agricultural productional space. This index by respecting the quality and agricultural usefulness of soils, agroclimate, relief and water conditions characterizing the productional potency of agriculture in concrete region [Krasowicz, Filipiak 1999].

Similarly as whole country also in rural areas of the Podkarpackie province, the natural conditions are differentiating between particular subregions, so it regarded in the main to soil conditions, but much more lower to water conditions (tab. 1).

Decidedly the best natural conditions (much more better than average in province) are existing in eastern and middle subregions, as result of existing of very good soil and climatic conditions, as a trumps of this areas. So the weak natural conditions (in comparison with average for province) having the southern and middle-western subregions. It is the result of the weak soil conditions especially in southern subregion. Are existing also the weak climatic conditions and relief (mountain areas). Than in western subregion the natural conditions are nearing to average in the whole Podkarpackie province (tab. 1).

Analysing the differentiation of natural conditions between particular rural communes in scope of subregions in the Podkarpackie province we may pointed out on their lower level, but in all subregions the relief is the much more differentiating feature (tab. 1).

So we may concluding that chosen subregions in the Podkarpackie province are homogeneity units from the point of view of natural conditions, but the best conditions for agricultural production are existing in eastern and middle subregions, but a little profitable in southern and middle-western subregions.

Table 1. Bonitation indexes and total index of quality of agricultural productional space in rural communes of the Podkarpackie province and their subregions (in points).

Specification	Podkarpackie province (rural communes)	Subregions.									
		I		II		III		IV		V	
		A	B	A	B	A	B	A	B	A	B
Quality and agricultural usefulness of soils	54,6	52,7	16,9	47,1	26,1	60,0	23,1	62,7	21,0	48,4	18,6
Agroclimate	10,6	11,0	18,7	10,6	15,6	11,8	13,8	11,4	13,7	7,0	22,6
Relief	3,0	3,4	36,2	2,8	46,4	3,3	31,7	3,2	30,4	1,7	63,8
Water conditions	4,1	4,0	17,0	3,8	26,5	4,0	20,1	4,3	11,6	4,8	2,0
Total index of quality of agricultural productional space	72,3	71,1	12,5	64,3	16,8	79,1	17,7	81,6	16,9	61,9	18,4

Explanations: I - western, II – middle - western, III - middle, IV - eastern, V - southern.

A – average for rural communes in subregion, B – coefficient of diversification some feature between rural communes in subregion.

Source: own work on the base of [Waloryzacja... 1994].

Demographical conditions

Demographic situation treating as a whole processes of natural and migration changes in population and their sex and age structure is the importance factor determining the possibilities and needs of development of economical activity (agricultural and extra-agricultural) on particular area [Frenkel 1999].

Analysing the differentiation of demographic conditions between subregions in the Podkarpackie province we may pointed on that they existing in reference to following features as: density of population, index of increase of population and index of migration balance. So the changes in population number during 1999-2004 and percentage of population in productional age and percentage population with high and above mean education are similarly to particular subregions and comparative to average for whole province (tab. 2).

Table 2. Chosen features characterizing the demographic conditions in rural communes of the Podkarpackie province and their subregions.

Specification	Podkarpackie province (rural communes)	Subregions.									
		I		II		III		IV		V	
		A	B	A	B	A	B	A	B	A	B
Changes in population number during 1999-2004 years, (dynamics, year 1999=100)	99,0	99,5	2,3	100,1	1,3	100,1	2,4	99,4	2,5	98,4	5,1
Percentage of population in productional age	58,0	58,2	2,7	57,2	2,0	57,6	2,7	57,5	2,4	60,0	4,2
Percentage of population with high and above mean level of education	22,1	21,2	15,5	19,9	16,5	24,0	20,6	20,9	21,9	25,0	17,7
Density of population per 1 km ²	95,1	99,3	63,8	85,1	33,3	126,6	61,6	72,1	46,1	86,8	74,4
Increase of population per 1000 inhabitants	1,7	1,8	73,1	1,3	76,0	1,4	72,8	1,6	66,3	2,6	86,2
Balance of	-0,6	-0,3	95,2	-1,1	86,3	0,4	98,5	-2,2	85,7	-0,3	93,1

migration for stable stay per 1000 inhabitants											
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Explanations: as in table 1.

Source: own work on the base data from Statistical Department in Rzeszow

Decidedly highest density of population and positive index of migration balance are existing in middle subregion also characterizing by increase of population number during 1999-2004 and similarly as in all subregions in the province, by positive index of population increase. This features are the trumps of analysed subregion as a leader from the point of view of demographic conditions. So next the lowest population density (decidedly lowest than average for province) is existing in eastern subregion treating as their weakness. In middle-western and southern subregions it is approximately and lower than average in province, and in western subregion it is comparative with average for province (tab. 2).

The positive index of increase of population is the trump rural areas of the Podkarpackie province and their all subregions. Especially it regarded to southern subregion, where this index is the highest. In other subregions i.e. western, middle-western, middle and eastern it is differentiated, and created on the similar level in comparison with average for province (tab. 2).

Than the weakness of rural areas of the Podkarpackie province and their four subregions i.e. western, middle-western, eastern and southern, is the negative index of migration balance. It regarded especially to eastern subregion, where is decidedly highest negative index of migration balance (marginal areas of the eastern wall – small industrialization, high unemployment). In middle-western subregion this index is the higher than in average for province and in the others subregions i.e. western and southern, is identical and lower than the average in province (tab. 2).

The differentiation of demographical conditions between particular rural communes is scope of subregions in the Podkarpackie province regards also this features as: density of population, index of natural increase and index of migration balance. But changes in population number during 1999-2004 and percentage of population in productional age and percentage of population with high and above mean level of education are similarly to rural communes including to particular subregions (tab. 2). So the distinguished subregions in the Podkarpackie province are the homogeneity units from this respect.

The much more differentiated feature between particular rural communes in western and southern subregions, in the middle in the main, is the index of migration balance. It is testifying about existence on this areas something like as phenomena of demographical polarization i.e. creating of areas (pools) of inflow of population (urban areas, near Rzeszow agglomeration), but on the other side areas (pools) outflow of population (marginal and depopulating areas). Additionally proportionally strongly differentiated feature in scope of this subregions as the density of population is ascertaining about this situation. Also we may state that the middle subregion (with trumps as: density of population and positive index of balance of migration) are not the homogeneity area with respecting of this features (tab. 2).

Next, in middle-western subregion the much more differentiated features between particular rural communes are: index of migration balance and index of natural increase of population and in eastern subregion index of migration balance as a feature deciding about the biggest weakness (so this eastern subregion is not the homogeneity area in this scope) (tab. 2).

Infrastructural conditions

The technical infrastructure states so to say a skelet of economy and base of every possible economical activity (agricultural and nonagricultural), causing their scope, structure and spatial displacement. Among whole elements of infrastructure which are playing the significant role in economical activization of some area (for example commune) we may indicate on the roads, telephone network, gas system, water supply and sewage system. It was distincted in many investigations [Kłodziński 1999, Pięcek 1999, Czudec 2003].

The infrastructural conditions are distinctly differentiation on the areas of the Podkarpackie province, among particular subregions and it is regarded the whole analysed elements of characteristic i.e. density of communal roads, percentage of communal roads with improvement hard surface, index of telephonization and indexes of equipment the buildings in water supply and sewage system (tab. 3).

The density of communal roads is decidedly highest in western subregion (distinctly higher than average for province) and propably states the

trumps of this region. Nextly position have the middle and middle-western subregions, where density of communal roads is comparative which mean value for province. So distinctly lowest density of communal roads has the southern subregion, than eastern, so we may say about weaknesses of this areas (tab. 3).

Distinctly the highest percentage of communal roads with improvement hard surface (higher than mean for province) takes place in southern and middle subregions and decides about trumps of this areas. In eastern and western subregions this percentage is comparative with mean value for province and it is decidedly lowest in middle-western subregion and decides about weakness of this area (tab. 3).

Index of telephonization is distinctly highest in western subregion, as its trumps. In middle, southern and middle-western subregions this index is comparative with mean value for province, but its higher. So, distinctly lowest this index is in eastern subregion, as its weakness (tab. 3).

Analysing the index of equipment of house buildings in water supply we may pointed that the best situation in this scope takes place in middle subregion (it is trumps of this region). So in eastern, middle-western and western subregions this index is comparative with mean value for province. Than the bad equipment have the buildings in southern subregion (as weaknesses of Table 3. Chosen features characterizing the infrastructural conditions in rural communes of the Podkarpackie province and their subregions.

this areas), the investigational index is distinctly lowest that mean value for province (tab. 3).

Equipment of house buildings with sewage system is not enough developing element of infrastructure on the rural areas of the Podkarpackie province. It is regarded especially the western subregion, where is existing decidedly the worst equipment with this component of infrastructure. Than the best situation with this respect is existing in middle, southern and eastern subregions (index of equipment of house buildings with sewage system is the higher than average for province). So in the middle-western subregion analysed index is much more meaning to average in province (tab. 3).

All analysed elements characterizing the infrastructural conditions i.e. density of communal roads, percentage of communal roads with improvement hard surface, index of telephonization and indexes of equipment of buildings with water supply and sewage system are also differentiating between particular rural communes with in subregions in the Podkarpackie province (tab. 3).

The density of communal roads and index of equipment of buildings in water supply are the much more differentiating features between particular rural communes of western subregion. It means that this area is not homogeneity as well as from the point of view this feature stating its trump and from the point of view this feature which is the biggest weakness (tab. 3).

Specification	Podkarpackie province (rural communes)	Subregions									
		I		II		III		IV		V	
		A	B	A	B	A	B	A	B	A	B
Density of communal roads per 100 km ²	54,8	83,1	81,1	51,3	63,8	54,0	63,3	42,5	88,8	28,7	81,9
Percentage of communal roads with improvement hard surface	39,1	37,5	64,3	27,2	88,5	45,5	46,9	39,2	66,5	47,7	56,4
Number of stationary abonents per 1000 inhabitants	128,1	153,7	31,2	130,4	38,9	133,0	38,3	86,5	62,9	131,1	30,0
Number of connects to buildings per 1000 house building:											
water supply	589,6	601,4	57,2	626,2	54,9	713,4	48,3	631,5	52,3	292,9	71,9
sewage system	194,7	65,1	78,3	175,1	93,6	284,3	83,9	254,6	74,4	257,1	94,3

Explanations: as in table 1.

Source: as in table 2.

Also in the middle, eastern and southern subregions the much more differentiating features between rural communes are: the density of communal roads and index of equipment of buildings in sewage system and in the middle-western subregion: index of equipment of buildings

in sewage system and the percentage of communal roads with improvement hard surface. So eastern, southern and middle-western subregions are not homogeneity units from the point of view features determining about their weaknesses. Similarly as middle, eastern and southern subregions are not homogeneity from the point of view other element of

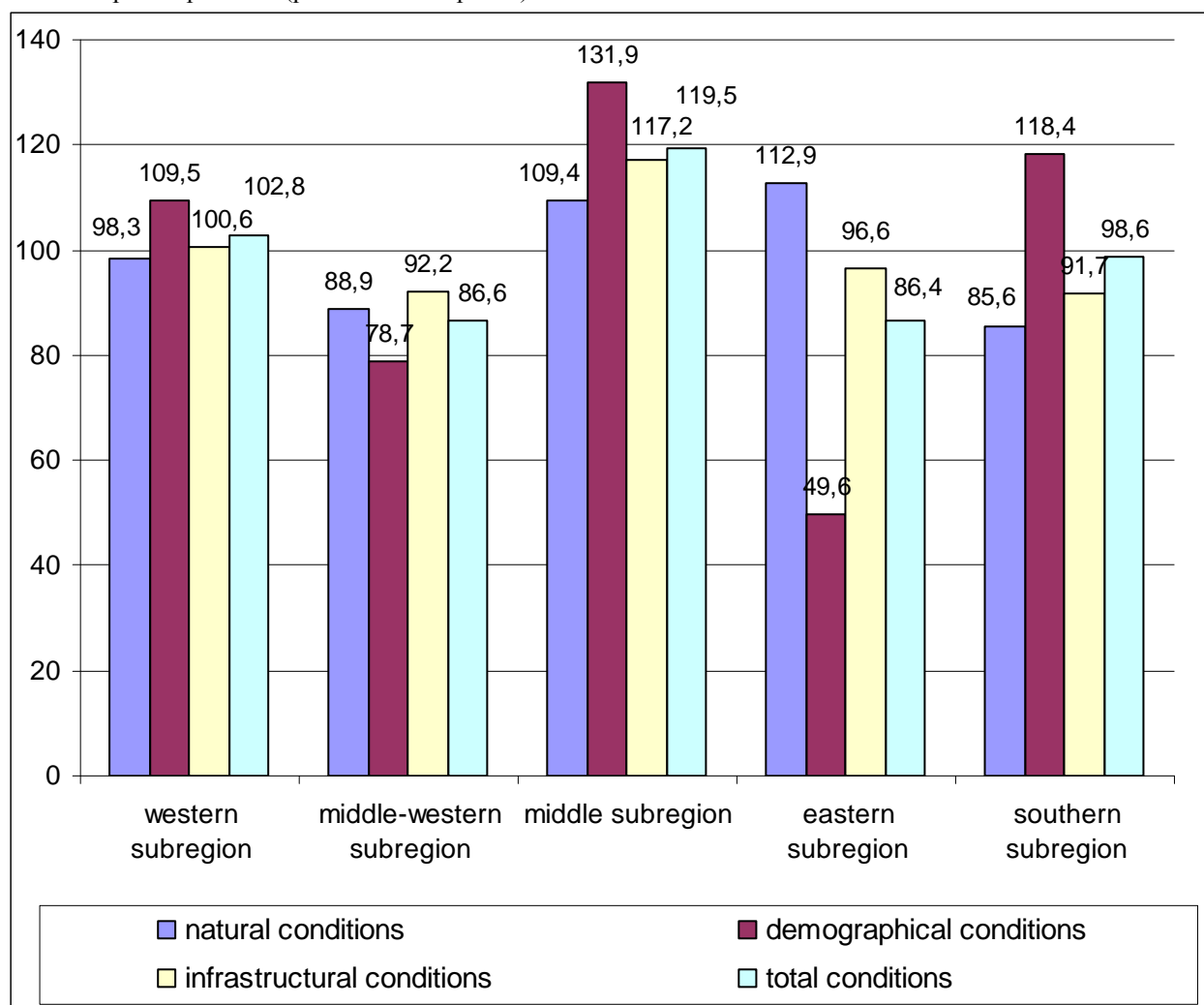
infrastructural conditions which is proportionally development on the good level i.e. index of equipment of buildings with sewage system (tab. 3).

Estimation of conditions of economical activity

Making on estimation of conditions of economical activity in particular subregions on the background of the Podkarpackie province we may state that the decidedly best they are in the middle subregion, because on this area is creating the Rzeszow agglomeration. It is a result from the best

demographical conditions (density of population, balance of migration) and infrastructural conditions (equipment of buildings with water supply and sewage system, percentage of communal roads with improvement hard surface). Also not trifling mean in this scope are having the good natural conditions (especially quality of soils and agricultural usefulness of soils) (tab. 1, 2, 3 and graph 1).

Graph 1. Pointing estimation of conditions of economical activity in particular subregions on the background of the Podkarpackie province (province = 100 points).



Source: own work

In western and southern subregions the conditions for economical activity are much more nearing to average for province. This subregions are having the much more profitable demographic conditions (better than average in the province) especially balance of migration and natural increase of

population. So the natural and infrastructural conditions are differentiating, because in western subregion they are meaning to average in the province, so in southern subregion they are decidedly worse (most of all the natural) (tab. 1, 2, 3 and graph 1).

The worst conditions for development of economical activity are existing in eastern and middle-western subregions, where they are distinctly worse than average in the province. It is result of the worst demographic conditions (balance of migration, density of population) especially in the example the eastern subregion. This subregion has the very good natural conditions (especially soil conditions) and a little better the infrastructural conditions in comparison with middle-western subregion in which are existing the worse natural conditions (tab. 1, 2, 3 and graph 1).

Conclusions

1. Between particular subregions in the Podkarpackie province they are existing distinctly differentiation from the point of view the conditions for development of economical activity (agricultural and nonagricultural). It regard to natural conditions (especially soil) demographical conditions (density of population, increase of natural population, balance of migration) and all analysed elements of infrastructural conditions (i.e. density of roads, percentage roads with improvement hard surface, index of telephonization and indexes of equipment of buildings with water supply and sewage systems).
2. Particular subregions of the Podkarpackie province are the homogeneity units from the point of view of natural conditions and this features of demographical conditions as: changes in population number during 1999-2004, percentage of population in the productional age and percentage of population with mean and above mean level of education. So in the case of infrastructural conditions and this features of demographical conditions as: density of population and balance of migration, they are existing the distinctly differentiation between particular rural communes with in all subregions.
3. The best conditions for development of economical activity (agricultural and nonagricultural) are existing in middle subregion, so in western and southern subregions this conditions are nearing to average in the province, but the worst are existing in the eastern and middle-western subregions.
4. Demographical and infrastructural conditions are the trumps for middle subregion, also this subregion has a good natural conditions. Demographical conditions are trumps for western and southern subregions, which then stating the weaknesses for middle-western and eastern subregions. The natural conditions are the trumps for eastern subregion, which both with infrastructural conditions are the weaknesses for middle-western and southern subregions.

5. Above we may distinct that positive index of natural increase in all subregions and whole rural areas of the Podkarpackie province is the main trump, but the weaknesses is the negative balance of migration (with-out the middle subregion) and equipment of buildings with sewage system.

6. Acting in direction of decreasing of developmental disproportions between particular subregions in the Podkarpackie province and within them (between rural communes) we may respect the existing differences in conditions for development of economical activity (agricultural and nonagricultural) and in way of succesive and the efficiency leveling, the especially the infrastructural conditions.

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